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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/349,087	07/08/1999	KIM B. ROBERTS	10420ROUS01U	6208

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EXAMINER	
ODLAND, DAVID E	
ART UNIT	PAPER NUMBER

2662

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/349,087

Applicant(s)

ROBERTS, KIM B.

Examiner

David Odland

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 & 3. 6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 14 is objected to because of the following informalities:

Claim 14 recites "...an elastic store for temporarily storing an amount of data bits of said stream at said data clock and providing..." in lines 3 and 4. It appears as though the term -rate- should be inserted after the terms 'data clock' since it doesn't make sense to store data in a clock and since page 15 lines 22 and 23 of the specification indicates that the data is input into the elastic store at a rate which is clocked by the data clock.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 1, line 2, it is unclear what is meant by a 'transparent tributary'.

Claim 1 recites 'valid' and 'invalid' timeslots of a frame, in lines 7 and 8. It is unclear what constitutes a timeslot as being valid or invalid.

Claims 2-12 are rejected because they depend on claim 1.

Referring to claim 3, line 2, it is unclear what is meant by a 'synchronous tributary'.

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Referring to claim 6, lines 3 and 4, although it is clear and well known in the art to determine the phase difference between two signals, it is unclear what is meant by determining the phase difference between two *rates*, R1 and R, of two different signals.

Referring to claim 7, line 2, since the terminology 'substantially larger' has no corresponding bounds it renders the terms indefinite.

Referring to claim 8, line 2, it is unclear what is meant by 'reminder fixed stuff bits'.

Claim 13 recites, "...a data recovery unit for receiving said continuous format signal and recovering a stream of data bits..." in lines 4 and 5. It is unclear whether the recovered data bits are recovered from the continuous format signal that is input into the data recovery unit or if the recovered stream of data bits is recovered from another input of the data recovery unit.

Claims 14-18 are rejected because they depend on claim 13.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 5, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman et al. (USPN 6,047,005), hereafter referred to as Sherman, in view of Urbansky (USPN 5,263,056), hereafter referred to as Urbansky.

Referring to claim 1, Sherman discloses a method for transmitting a continuous digital signal of an arbitrary rate R1 (transmitting a DS1 signal known to have a rate of 1.544 Mbps as a VT1.5 signals (see column 10)) over a synchronous network as a transparent tributary (the VT1.5

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signal is transported over a Synchronous Optical Network (SONET) (see column 10)), comprising:

selecting a fixed length container signal of a rate R (the VT1.5 signal transported in a selected SONET frame (see column 10), where R is higher than said arbitrary rate R1 of said continuous signal (the SONET signal is transported at an OC-3 which is known to be 155.52 Mbps and therefore is greater than the VT1.5 rate of 1.544 Mbps)); and

at a transmit site, distributing the bits of said continuous signal into valid timeslots of a frame of said container signal (the VT1.5 data is included in the SONET frame (see column 10)) and providing stuff bits into invalid timeslots (stuffing bits are also included in the SONET frame (see column 10)).

Sherman does not disclose that the invalid time slots are uniformly dispersed across the frame. However, Urbansky discloses a system for justifying signals with variable rates wherein stuff bits are uniformly distributed (see column 2). It would have been obvious to one skilled in the art at the time of the invention to uniformly distribute the invalid time slots, wherein the stuffing bits are stuffed, as taught by Urbansky, in the system of Sherman because if the stuffing bits are non-uniformly distributed it will lead to jitter problems when the signals is demultiplexed, as Urbansky points out in column 2 lines 6-8.

Referring to claim 2, Sherman in view of Urbansky discloses the transmission method as discussed above. Furthermore, Sherman discloses that the container signal is a SONET/SDH signal, and said synchronous network is a SONET/SDH network (the VT1.5 is transported in a SONET frame, which inherently is transported over a SONET network (see column 10)).

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Referring to claim 3, Sherman in view of Urbansky discloses the transmission method as discussed above. Furthermore, Sherman discloses that the SONET/SDH signal further comprises a synchronous tributary (the virtual tributary, VT1.5, signal is interleaved into a single synchronous transport signal (STS-1) therefore it is a synchronous tributary (see column 10)).

Referring to claim 4, Sherman in view of Urbansky discloses the transmission method as discussed above. Furthermore, Sherman discloses that the SONET/SDH signal comprises a plurality of transparent tributaries (each VT1.5 signal transported by the SONET frame consists of 24 lower tributaries (each corresponding to a DS0 signal and therefore making up one DS1 signal per VT1.5 signal) (see column 11)).

Referring to claim 5, Sherman in view of Urbansky discloses the transmission method as discussed above. Sherman does not disclose that the stuff bits comprise fixed and adaptive stuff bits. However, Urbansky also discloses that the time slots comprise one of a fixed stuff and an adaptive stuff bit (the justification locations contain both variable stuff bits and fixed stuff bits (see column 1)). It would have been obvious to one skilled in the art at the time of the invention to utilize fixed and adaptive stuff bits as taught by Urbansky in the system of Sherman, because doing so would provide the SONET frame with more flexibility when transporting the lower rate tributary (i.e. the virtual tributaries can 'float' in the SPE, a method well known in the art).

4. Claim 12, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Urbansky and further in view of Cummings et al. (USPN 6240087), hereafter referred to as Cummings.

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Referring to claim 12, Sherman in view of Urbansky discloses the transmission method as discussed above. Sherman does not disclose recovering the continuous signal. Cummings discloses recovering a continuous signal from said synchronous signal at a receive site (a DS1 signal is recovered from a SONET VT1.5 signal (see column 31 lines 30-67)), by extracting the data bits of said continuous signal from said valid timeslots of said frame (the inbound VT1.5 receiver extracts the DS1 signals from the inbound VT1.5 SPEs of the received SONET frames (see column 31 lines 30-67)). It would have been obvious to one skilled in the art at the time of the invention to utilize a receiver as taught by Cummings in the system of Sherman in view of Urbansky, because such a receiver provides an efficient method of recovering the continuous digital signal (i.e. the original DS1 signal) from the synchronous network (i.e. the SONET frame of the SONET network) so that the data can be further processed by the receiving end.

Allowable Subject Matter

5. Claims 19 and 20 are allowed.
6. Claim 13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
7. Claims 14-18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The following prior art, which is made of record and not relied upon, is considered pertinent to applicant's disclosure:

- a. U.S. Patent Number 3872257 to Bleickardt et al.

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- b. U.S. Patent Number 4967405 to Upp et al.
- c. U.S. Patent Number 4998242 to Upp.
- d. U.S. Patent Number 5030951 to Eda et al.
- e. U.S. Patent Number 5067126 to Moore.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Odland, who can be reached at (703) 305-3231 on Monday – Friday during the hours of 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached at (703) 305-4744. The fax number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, who can be reached at (703) 305-4750.

deo

October 24, 2002


HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
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